1. A network comprising:

a first subnetwork including a first plurality of nodes interconnected by a first plurality of links, wherein nodes in the first plurality have a first capacity,

a second subnetwork including a second plurality of nodes interconnected by a second plurality of links, wherein nodes in the second plurality have a second capacity, and wherein the second capacity is higher than the first capacity, and

a third plurality of links between nodes in the first subnetwork and the second subnetwork.

2. The network of claim 1 wherein, the capacity of each particular one of the plurality of nodes in the second subnetwork is at least equal to the total capacity of all nodes in the first subnetwork that connect to that particular node in the second subnetwork.

3. The network of claim 2 wherein the first subnetwork includes a fabric capable of carrying any combination of traffic within the first network without requiring such traffic to enter the second subnetwork.

4. The network of claim 1 wherein the first subnetwork includes a fabric capable of carrying any combination of traffic within the first subnetwork without requiring such traffic to enter the second subnetwork.

5. The network of claim 1 wherein the first plurality of links and the first plurality of nodes of the first subnetwork form a mesh topology.

6. The network of claim 1 wherein the first plurality of links and the first plurality of nodes of the first subnetwork form a mesh topology and wherein the second plurality of links and the second plurality of nodes of the second subnetwork form a mesh topology.

7. The network of claim 1 wherein the capacity of the first node includes its worst-case bandwidth and the capacity of the second node includes its worst-case bandwidth.

8. The network of claim 1 wherein the second subnetwork includes a fabric capable of carrying any combination of traffic from the first network.

9. The network of claim 1 further including at least a third subnetwork having a plurality of nodes interconnected by a fourth plurality of links, further including a fifth plurality of links between nodes in the third subnetwork and in the second subnetwork, and wherein nodes in the third subnetwork have a third capacity lower than the second capacity.

10. The network of claim 9 wherein different nodes in each of the first and third subnetworks are connected to different nodes in the second subnetwork.

11. The network of claim 1 further including at least a third subnetwork having a plurality of nodes interconnected by a fourth plurality of links, further including a fifth plurality of links between nodes in the second subnetwork and in the third subnetwork, and wherein nodes in the third subnetwork have a third capacity higher than the second capacity.

12. The network of claim 11 wherein the first and third capacities are equal.

13. The network of claim 1 further including at least three further subnetworks each having a plurality of nodes interconnected by a respective plurality of links, further including at least three further pluralities of links respectively between nodes in the three further subnetworks and the second subnetwork, and wherein nodes in the three further subnetworks have a third capacity lower than the second capacity.

14. The network of claim 1 further including routing logic operative to route signals from any of the nodes in the network to any other nodes in the network via a path that is independent of all other traffic in the network.

15. The network of claim 1 further including communication-enabling logic operative to enable communication between any two of the nodes based on the available capacity of those two nodes.

16. The network of claim 1 wherein the capacity and topology of the interconnections between the subnetworks define a network having a monotonic performance characteristic.

17. The network of claim 1 wherein each of the nodes in the first subnetwork are connected to a different node in the second subnetwork.

18. A networking method, comprising:

inquiring whether two nodes in the network have sufficient capacity to communicate, and

determining whether to allow communication between the two nodes based on results of the step of inquiring but otherwise independent of existing traffic allowed through the network in previous steps of allowing, and

allowing communication traffic to pass between nodes in a network based on the step of determining.

19. The method of claim 18 wherein the step of determining is based only on the results of the step of inquiring.

20. A networking method, comprising:

providing a first subnetwork including a first plurality of nodes interconnected by a first plurality of links,

providing a second subnetwork including a second plurality of nodes interconnected by a second plurality of links,

providing a third subnetwork including a third plurality of nodes interconnected by a third plurality of links,

providing a plurality of links between nodes in the first subnetwork and the second subnetwork and a plurality of links between nodes in the second subnetwork and the third subnetwork,

inquiring whether a node in the third subnetwork has sufficient capacity to receive a transfer, and

determining whether to perform a transfer from a node in the first subnetwork to the node in the third subnetwork based on results of the step of inquiring.

21. A network comprising:

means interconnecting a first area of nodes,

means interconnecting a first scale of nodes, and

means interconnecting the first area and the first scale.

22. The network of claim 21 including means for balancing the first area of nodes and the first scale of nodes.

23. The network of claim 21 wherein, the capacity of each particular one of the plurality of nodes in the second subnetwork is at least equal to the total capacity of all nodes in the first subnetwork that connect to that particular node in the second subnetwork.

24. The network of claim 21 wherein the means for interconnecting the first area includes means capable of carrying any combination of traffic without requiring such traffic to enter the scale.

25. The network of claim 21 further including means interconnecting a second area of nodes and means interconnecting the second area and the first scale.

26. The network of claim 21 further including means interconnecting further areas of nodes and means interconnecting the further areas and the first scale.

27. The network of claim 21 further including means interconnecting a second scale and the first scale.

28. The network of claim 21 further including means for routing signals within the network via a paths that are independent of all other traffic in the network.

29. The network of claim 1 further including communication-enabling logic operative to enable communication between any two of the nodes based on the available capacity of those two nodes.

30. A network interface, comprising:

a data structure expressing usage of portions of the capacity for the node, and

communication-enabling logic responsive to requests to establish communication with other nodes, and operative to permit the communication if one of the portions with an adequate capacity for the communication is available.

31. A network interface, comprising:

a plurality of connection ports, and

routing logic operative to route signals from any of the nodes in the network to any other nodes in the network via a path that is independent of all other traffic in the network.

32. A network interface, comprising:

a first plurality of connection ports for connection in a mesh topology,

a second connection for connection to a scale node, and

wherein a capacity of the second connection is equal to or greater than a sum of capacities for the first plurality of connection ports.

33. A network component, comprising:

a first plurality of nodes interconnected in a mesh topology,

wherein each node includes a scale connection for connection to a scale node, and

wherein a capacity of the second connection is equal to or greater than a sum of capacities for the first plurality of connection ports.